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Filed : December 1, 2000

REMARKS

Claim 1 has been amended to merely clarify the invention. Claim 11 has been amended by incorporating the limitations of Claims 14 and 15, which have been canceled. The amendments neither raise the issue of new issue nor new matter. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Claim Objections

Claim 1 has been objected to because the minor informalities set forth in the Office Action. Claim 1 has been amended to correct the informalities, thereby obviating this objection.

Claim Rejection Under 35 U.S.C. § 112, first paragraph

Claims 11-27 have been rejected under 35 U.S.C. § 112, second paragraph, with regard to the phrases in Claims 11 and 12. Claim 11 has been amended by incorporating the limitations of Claims 14 and 15 which have not been rejected on the same ground (Claims 13-15 are canceled). Claim 12 is dependent on Claim 11. Thus, it is respectfully submitted that the rejection should be withdrawn.

Rejection of Claims 1-4, 6, 9, 11, 12, 14-17, and 26 Under 35 U.S.C. § 102

Claims 1-4, 6, 9, 11, 12, 14-17, and 26 have been rejected under 35 U.S.C. § 102(b) as being anticipated by EP0957416 (Kamihira). Applicant respectfully traverses this rejection.

As the Examiner pointed out in the Office Action, Kamihira discloses the basic features of the present invention. However, one of the essential features of the present invention is not disclosed or even suggested by Kamihira as discussed below.

Kamihira teaches that a first control module and a second control module evolve in parallel (Fig. 19) or in series (Fig. 20), and that one control module evolves interactively (Fig. 12) and another control module evolves autonomously (Fig. 14).

However, Kamihira does not teach or suggest that the same control module evolve interactively and autonomously. In Kamihira, control modules are clearly separated into two groups: one evolves interactively, and the other evolves autonomously because control parameters

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involved are ver different from each other. Kamihira discloses one group for drivability, and the other for fuel efficiency. Thus, each control module, i.e., parameters used in the control module, in Kamihira is designated to control either a device involving drivability, or another device involving fuel efficiency.

In contrast, in the present invention, a single control module can evolve both interactively and autonomously, and a user can chose which evolutionary process is used for optimization (e.g., Figs. 4 and 5). This essential feature is very significant when a control module is used for controlling a device in a machine assembly. Optimizing performance of one device cooperating with other devices requires very sophisticated processes; however, by subjecting a control module for a device to both the interactive evolution and the autonomous evolution, overall optimization of the machine assembly can be accomplished effectively.

Thus, the present invention recited in Claim 1 or 11 as amended herein could not be anticipated by Kamihira. The remaining claims are dependent on either Claim 1 or 11, and at least for the reason above, the dependent claims also could not be anticipated by Kamihira. Applicant respectfully requests withdrawal of this rejection.

Rejection of Claim 5 Under 35 U.S.C. § 103

Claim 5 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamihira in view of US5,418,721 (Arai).

Neither does Kamihira, Arai does not teach the above feature. A combination of Kamihira and Arai could not lead to any of the claims. Claim 5 could not be obvious over Kamihira and Arai. Applicant respectfully requests withdrawal of this rejection.

Rejection of Claims 7, 8, and 27 Under 35 U.S.C. § 103

Claims 7, 8, and 27 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamihira in view of Bonissone (US 5,995,737).

The Examiner asserts that Bonissone discloses a method similar to Claim 1. However, Bonissone's system is not a real-time system but a simulation system. Further, Bonissone uses the velocity profiler 12 which is autonomous evaluation, but Bonissone does not teach or even suggest interactive evaluation. Thus, Claim 1 as amended herein could not be obvious over Kamihira and

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Bonissone. Claims 7, 8, and 27 are dependent ultimately on Claim 1, and at least for the reason, it is respectfully submitted that the rejection should be withdrawn.

Rejection of Claims 10 and 18-25 Under 35 U.S.C. § 103

Claims 10 and 18-25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamihira.

However, as discussed earlier, Claims 1 and 11 as amended herein recites that the single control module is optimized based on both the interactive evaluation and the autonomous evaluation. Kamihira does not teach this feature. Claims 10 and 18-25 are dependent ultimately on Claim 1 or 11, and at least for the reason, it is respectfully submitted that the rejection should be withdrawn.

CONCLUSION

In light of the Applicant's amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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